

June 21, 2017



U.S. Department  
of Transportation

East Building, PHH-30  
1200 New Jersey Avenue S.E.  
Washington, D.C. 20590

**Pipeline and Hazardous  
Materials Safety Administration**

DOT-SP 20301  
(FIRST REVISION)

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: (See individual authorization letter)
2. PURPOSE AND LIMITATION:
  - a. This special permit authorizes the transportation in commerce of production lithium ion cells and prototype and low production lithium ion batteries via cargo aircraft. This special permit provides no relief from the Hazardous Materials Regulations (HMR) or the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI) other than as specifically stated herein. The most recent revision supersedes all previous revisions.
  - b. The safety analyses performed in the development of this special permit only considered the hazards and risks associated with the transportation in commerce.
  - c. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.
  - d. This special permit serves as an approval under Special Provision A99 (for the production lithium ion cells) and Special provision A88 and State Variation US 3 of the ICAO TI (for the prototype and low production lithium ion batteries) and as a "Competent Authority Approval" as defined under 49 CFR § 107.1.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180 and the ICAO TI.

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4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 172.101 Hazardous Materials Table Column (9B) in that lithium batteries may have a mass exceeding 35 kg per package; § 173.185(a)(1) in that lithium batteries need not be tested in accordance with the UN Manual of Tests and Criteria; and § 173.185(b)(3)(i) and (ii) in that lithium batteries that weigh 12 kg or more and have a strong, impact-resistant outer casing need not be packaged in combination UN Standard packagings, as provided herein.
5. BASIS: This special permit is based on the application of Tesla Motors, Inc. dated August 9, 2016 submitted in accordance with § 107.105 and the public proceeding thereon and additional information dated March 7, 2017.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

<b>Hazardous Materials Description</b>			
<b>Proper Shipping Name</b>	<b>Hazard Class/ Division</b>	<b>Identification Number</b>	<b>Packing Group</b>
Lithium ion batteries	9	UN3480	N/A

7. SAFETY CONTROL MEASURES:

- a. Only the following may be offered for transportation under the terms of this special permit:
- (1) Production lithium ion cells that are packaged non-wired in modules in a package;
  - (2) Prototype and low production lithium ion battery modules and batteries. Low production is defined as annual production of not more than 100 battery modules or batteries of a particular type.
- b. A module containing the non-wired cells in a package may not exceed 100 kg or 25 kWh in total capacity of the module.
- c. A battery module may not exceed 100 kg or 25 kWh capacity.
- d. A battery may not exceed 500 kg or 100 kWh capacity.

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e. The non-wired cells, battery modules and batteries must be offered for transportation at a state of charge not exceeding 30 percent.

f. The cells (wired and non-wired) must incorporate a safety venting device or otherwise be designed in a manner that precludes a violent rupture under conditions normally incident to transportation. The cells must also incorporate an internal Current Interrupt Device to protect the cells from excessive internal pressure.

g. Batteries composed of modules must be designed to prevent overcharge, short circuits and over charge between the battery modules. Additionally, batteries must be designed to meet Society of Automotive Engineers vibration (J2380) and crush (J2929) testing.

h. Cells, modules and batteries must be protected against short circuiting.

i. Testing Requirements:

(1) All lithium ion cells (wired and non-wired) must be of a type that has passed all required tests as specified in the "UN Manual of Tests and Criteria, 5<sup>th</sup> Revised Edition."

(2) The prototype and low production lithium ion modules and batteries need not be tested in accordance with the "UN Manual of Tests and Criteria, 5<sup>th</sup> Revised Edition."

j. Packaging Requirements:

(1) Modules containing non-wired production cells -

(i) Each module must be composed of the number of cells noted in the supplemental information on file with the Office of Hazardous Materials Safety Approvals and Permits Division.

(ii) Cells in a module must be separated from each other and secured in place by using such a means as an affixing rigid plate and a plastic protective clamshell enclosure which is secured using straps to prevent cell contact, short-circuiting, and movement.

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(iii) The strapped enclosure must be placed in a plastic liner that completely encloses the module. This serves as an inner package.

(iv) The inner package must be further packaged in a 4D outer packaging that meets Packing Group I performance criteria. No more than one battery module may be packaged within one package.

(v) PE foam pad must be placed between the inner package and outer packaging to restrict the movement during shipping.

(2) Modules and Batteries -

(i) The modules and batteries must be individually packaged in a fully enclosed inner packaging and surrounded by cushioning material that is non-combustible, and non-conductive.

(ii) Modules must be further packaged in a 4D outer packaging that meets Packing Group I performance criteria. No more than one module may be packaged within one package.

(iii) Batteries must weigh 12 kg or more and have a strong, impact-resistant outer casing. These batteries may be packaged in strong outer packagings. No more than one battery may be packaged within one package. The battery must be secured to prevent inadvertent movement and the terminals may not support the weight of other superimposed elements.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this special permit who receives a package covered by this special permit may reoffer it for transportation provided no modification or change is made to the package and it is reoffered for transportation in conformance with this special permit, the HMR and the ICAO TI.

b. A current copy of this special permit must be maintained at each facility where the package is offered or

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reoffered for transportation.

c. This special permit in no way affects the need to obtain any required authorizations from other agencies of the United States Government or from the competent authorities of countries of origin, transit and destination.

d. The grantee must maintain a record of all activity conducted under the authority granted in this special permit and upon request make this information available to DOT representatives or enforcement officials. The record must contain a listing and number of shipments made to include:

(1) Dates of shipment; and

(2) Description of each type of shipment.

9. MODES OF TRANSPORTATION AUTHORIZED: Cargo-only aircraft.

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each aircraft used to transport packages covered by this special permit. The shipper must furnish a copy of this special permit to the air carrier before or at the time the shipment is tendered.

11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
- o Registration required by § 107.601 et seq., when applicable.

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Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—"The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for William Schoonover  
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-30, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

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Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at [http://hazmat.dot.gov/sp\\_app/special\\_permits/spec\\_perm\\_index.htm](http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm). Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: Steve H/NICKS